

Specification Amendments

Please insert the following beginning at p. 9, line 10 (which follows the paragraph beginning with “Figure 6 illustrates” as it was amended by the Amendment filed September 16, 2008):

A key parameter affecting the voltage produced by TE modules (also referred to herein as couples or thermocouples) is the length-to-area (L/A) ratio of the individual thermoelements, where A is the cross sectional area of a thermoelement. Current monolithic (or discrete element) modules are characterized by L/A values of less than about 20 cm⁻¹. Certain embodiments of the disclosed thin film thermoelements have relatively large L/A ratio values, greater than about 20 cm⁻¹ and perhaps more typically greater than about 100 cm⁻¹. Certain embodiments of the disclosed thin film thermoelements have even larger L/A ratio values, for example up to about 1,000 to about 10,000 cm⁻¹ or greater. The thermoelements may comprise thin films of TE materials having L/A ratios greater than about 500 cm⁻¹. The L/A ratio values of certain embodiments of the disclosed thermoelectric generators allow fabrication of μ W to W power supplies providing voltages greater than 1 volt even when activated by relatively small temperature differences, such as 20°C or 10°C, and certain embodiments even at temperature differences as small as about 5°C. The voltage required of the TE power source determines the number of thermocouples (TE modules) necessary and the desirable current determines the necessary L/A ratio of the thermoelements.